

IN THE CLAIMS

The following is a clean version of the amended claims. Please amend the following claims as indicated, and add new claim 297. An attachment is provided showing the revisions, captioned “Version with markings to show changes made.”

189. (Amended) The method of claim 193, wherein the recombinant nucleic acid comprises the sequence depicted in SEQ ID NO: 1.

193. (Amended) A method for producing a microbial cell culture with an altered fatty acid profile comprising:

71 culturing a microbial cell comprising a recombinant nucleic acid with at least 80% homology to the sequence depicted in SEQ ID NO: 1 to produce the microbial cell culture, said nucleic acid operably linked to transcription and translation control signals functional in said cell, wherein a polypeptide encoded by said nucleic acid forms a monounsaturated bond between carbons 6 and 7 of a fatty acid as numbered from a carboxy terminus thereof, wherein said polypeptide is expressed in sufficient amount in said culture to alter the fatty acid profile.

201. (Amended) A method for producing a microbial cell culture with an altered fatty acid profile comprising:

72 culturing a microbial cell comprising a recombinant nucleic acid operably linked to transcription and translation control signals functional in said cell to produce the microbial cell culture, wherein said nucleic acid is a deletion mutant of the nucleic acid depicted in SEQ ID NO: 1, wherein a polypeptide encoded by said nucleic acid forms a monounsaturated bond between carbons 6 and 7 of a fatty acid as numbered from a carboxy terminus thereof, wherein said polypeptide is expressed in sufficient amount in said culture to alter the fatty acid profile.

73 205. (Amended) The method of claim 208, wherein the polypeptide comprises the amino acid sequence depicted in SEQ ID NO:2.

208. (Amended) A method for producing a microbial cell culture with an altered fatty acid profile comprising:

culturing a recombinant microbial cell comprising a polypeptide with at least 80% homology to the sequence depicted in SEQ ID NO: 2 to produce the microbial cell culture,

wherein said polypeptide forms a monounsaturated bond between carbons 6 and 7 of a fatty acid as numbered from a carboxy terminus thereof, wherein said polypeptide is expressed in sufficient amount in said culture to alter the fatty acid profile.

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214. (Amended) A method for producing a microbial cell culture with an altered fatty acid profile comprising:

75 culturing a microbial cell comprising a recombinant nucleic acid to produce the microbial cell culture, wherein said nucleic acid hybridizes preferentially to the complement of the sequence depicted in SEQ ID NO: 1 under hybridization conditions suitable for sequencing said complement, said nucleic acid operably linked to transcription and translation control signals functional in said cell, wherein a polypeptide encoded by said nucleic acid forms a monounsaturated bond between carbons 6 and 7 of a fatty acid as numbered from a carboxy terminus thereof, wherein said polypeptide is expressed in sufficient amount in said culture to alter the fatty acid profile.

215. (Amended) A method for producing oil with an altered fatty acid profile comprising extracting said oil with an altered fatty acid profile from a microbial cell culture produced by culturing a microbial cell comprising a recombinant nucleic acid comprising the sequence depicted in SEQ ID NO: 1, said nucleic acid operably linked to transcription and translation control signals functional in said cell, wherein a polypeptide encoded by said nucleic acid is expressed in sufficient amount in said culture to alter the fatty acid profile.

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76 225. (Amended) A method for producing oil with an altered fatty acid profile comprising extracting said oil with an altered fatty acid profile from a microbial cell culture produced by culturing a microbial cell comprising a recombinant nucleic acid with at least 80% homology to the sequence depicted in SEQ ID NO: 1, said nucleic acid operably linked to transcription and translation control signals functional in said cell, wherein a polypeptide encoded by said nucleic acid forms a monounsaturated bond between carbons 6 and 7 of a fatty acid as numbered from a carboxy terminus thereof, wherein said polypeptide is expressed in sufficient amount in said culture to alter the fatty acid profile.

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77 235. (Amended) A method for producing oil with an altered fatty acid profile comprising extracting said oil with an altered fatty acid profile from a microbial cell culture produced by culturing a microbial cell comprising a recombinant nucleic acid operably linked to

77 transcription and translation control signals functional in said cell to produce the microbial cell culture, wherein said nucleic acid is a deletion mutant of the nucleic acid depicted in SEQ ID NO: 1, wherein a polypeptide encoded by said nucleic acid forms a monounsaturated bond between carbons 6 and 7 of a fatty acid as numbered from a carboxy terminus thereof, wherein said polypeptide is expressed in sufficient amount in said culture to alter the fatty acid profile.

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78 255. (Amended) A method for producing oil with an altered fatty acid profile comprising extracting said oil with an altered fatty acid profile from a microbial cell culture produced by culturing a recombinant microbial cell comprising a polypeptide comprising the amino acid sequence depicted in SEQ ID NO:2, wherein said polypeptide is expressed in sufficient amount in said culture to alter the fatty acid profile.

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79 265. (Amended) A method for producing oil with an altered fatty acid profile comprising extracting said oil with an altered fatty acid profile from a microbial cell culture produced by culturing a recombinant microbial cell comprising a polypeptide with at least 80% homology to the sequence depicted in SEQ ID NO: 2 to produce the microbial cell culture, wherein said polypeptide forms a monounsaturated bond between carbons 6 and 7 of a fatty acid as numbered from a carboxy terminus thereof, wherein said polypeptide is expressed in sufficient amount in said culture to alter the fatty acid profile.

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710 275. (Amended) A method for producing oil with an altered fatty acid profile comprising extracting said oil with an altered fatty acid profile from a microbial cell culture produced by culturing a microbial cell comprising a recombinant nucleic acid to produce the microbial cell culture, wherein said nucleic acid hybridizes preferentially to the complement of the sequence depicted in SEQ ID NO: 1 under hybridization conditions suitable for sequencing said complement, said nucleic acid operably linked to transcription and translation control signals functional in said cell, wherein a polypeptide encoded by said nucleic acid forms a monounsaturated bond between carbons 6 and 7 of a fatty acid as numbered from a carboxy terminus thereof, wherein said polypeptide is expressed in sufficient amount in said culture to alter the fatty acid profile.

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Please cancel claims 291-296.

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F11 297. (New) A method for producing oil with an altered fatty acid profile comprising extracting said oil with an altered fatty acid profile from a microbial cell culture produced by

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culturing a microbial cell comprising a recombinant nucleic acid to produce the microbial cell culture, wherein said nucleic acid hybridizes preferentially to the complement of the sequence depicted in SEQ ID NO: 1 at 50 degrees Celsius in 60 mM Tris-Cl (pH 8.5) and 15 mM  $(\text{NH}_4)_2\text{SO}_4$  and 2 mM  $\text{MgCl}_2$ , said nucleic acid operably linked to transcription and translation control signals functional in said cell, wherein a polypeptide encoded by said nucleic acid forms a monounsaturated bond between carbons 6 and 7 of a fatty acid as numbered from a carboxy terminus thereof, wherein said polypeptide is expressed in sufficient amount in said culture to alter the fatty acid profile.

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